

### ABSTRACT OF THE DISCLOSURE

A system for reliably broadcasting a data packet under an ad-hoc network environment including a determining unit for determining whether or not at least one node receiving the broadcast data packet is a relay node, a comparing unit for comparing a first relay node sequence number contained in a management packet which the node transmits with a second relay node sequence number stored in a neighbor table of the node, and a control unit for determining whether or not the data packet is retransmitted to the node according to a result of the comparison of the comparing unit. By comparing the second relay node sequence number stored in the neighbor table of the node which has broadcast the data packet with the first relay node sequence numbers transmitted through a Hello packet, it is possible to check whether or not the data packet is lost during broadcasting, and thus it is possible to reduce a loss factor of the data packet which is generated during broadcasting. Thereby, the data packet can be reliably broadcast.